

**REMARKS**

As a preliminary matter, the specification has been changed on page 3 so that “16” reads “18” to correct a typographical error which referred to the incorrect figure. Similarly, the specification has been amended to address the Examiner’s objection for informalities by replacing S<sub>4</sub> with E<sub>4</sub> in the last paragraph on page 3 of the specification, which also corrects a typographical error.

A. The Rejections

Claims 1-16 stand rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application No. 20040025585 of Seki et al. (hereafter “the Seki Publication”).

Claim 1 was also rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,291,781 to Nagata et al. (hereafter “the Nagata Patent”).

Claims 2-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Nagata Patent. The Examiner asserts that the Nagata Patent teaches all of the claimed subject matter except for the structural arrangement based on the use of a metal substrate for the semiconductor substrate. The Examiner argues that it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to have modified the supporting structure of the device taught by Nagata because such a modification would be “inherent” based on the use of a metal substrate. The Examiner also argues that it would have been obvious to use a non-corrosive material, such as stainless steel, as a sealing means.

B. Applicants' Arguments

Applicants respectfully traverse the Examiner's rejections and request reconsideration of the above-captioned application for the following reasons.

i. The Section 102e Rejections

Claims 1-16 were rejected under 35 U.S.C. 102(e) as being anticipated by the Seki Publication. However, the Seki publication is not prior art because it has an effective date of May 9, 2003, which is after the present application priority date of April 13, 2003. The present application is a National Stage application of International Application No. PCT/JP2004/001519, filed February 12, 2004, and claims priority to Japanese Patent Application No. 2003-112090 filed on April 13, 2003. A certified English translation of the Japanese Patent Application No. 2003-112090 is filed herewith.

ii. The Section 102b Rejection

Claim 1 was also rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,291,781 to Nagata et al. (hereafter "the Nagata Patent").

Anticipation under 35 U.S.C. § 102 requires showing the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984). In this case, the Examiner has failed to establish a prima facie case of anticipation against claim 1 using the Nagata Patent because the Nagata Patent fails to teach, or even suggest, each and every element of claim 1. For example, the Nagata Patent does not teach or suggest "a temperature sensor and a heater *mounted on a rear face side* of the fluid contacting surface of the corrosion resistant metal substrate" as does claim 1. Applicant respectfully contends that the sensor disclosed in the Nagata Patent is a sensor structured such

that the fluid flow directly contacts the heater element 7 and sensor elements 8 and 9 as shown in Figures 1, 2B, 3 and 4A. Unlike the Nagata Patent, the temperature sensor 3 and heater 4 of the present invention are installed on the opposite side of the fluid contacting surface of metal substrate 2, therefore, fluid flows avoiding contact with temperature sensor 3 or heater 4. Thus, since the Nagata Patent does not teach or suggest each and every element of independent claim 1, the Nagata Patent does not anticipate claim 1.

iii. The Section 103 Rejections

Claims 2-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Nagata Patent and the inherency of using a non-corrosive metal.

A prima facie case of obviousness requires a showing that the scope and content of the prior art teaches each and every element of the claimed invention, and that the prior art provides some teaching, suggestion or motivation to combine the references to produce the claimed invention. In re Oetiker, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992); In re Vaeck, 20 U.S.P.Q.2d 1438 (Fed Cir. 1991). In this case, the Examiner has failed to establish a prima facie case of obviousness against claims 2-16 because the Nagata Patent even in combination with the use of a non-corrosive metal does not disclose, teach, or suggest all the subject matter in claim 1 from which claims 2-16 depend. For example, as discussed above, the Nagata Patent does not teach or suggest, “a temperature sensor and a heater *mounted on a rear face side* of the fluid contacting surface of the corrosion resistant metal substrate” as does claim 1. Thus, it is impossible to complete the present invention as the Examiner contends, by merely changing the semiconductor substrate used in the Nagata Patent to a metal substrate and making the structural modifications necessitated by the use the metal substrate.

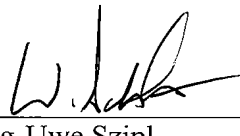
C. Conclusion

For the above reasons, Applicant respectfully asserts that independent claim 1 is in condition for allowance. Hence, claims 2-16, which depend from claim 1 are also in condition for allowance. Therefore, Applicant respectfully requests reconsideration of the application and withdrawal of the rejections, and a prompt notice of allowance is earnestly solicited.

Questions are welcomed by the below signed attorney for the Applicants.

Respectfully submitted,

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